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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,184	11/25/2003	Peter T. Kazlas	H-360	1183
26245	7590	04/13/2006	EXAMINER	
DAVID J COLE E INK CORPORATION 733 CONCORD AVE CAMBRIDGE, MA 02138-1002			NGUYEN, KHIEM D	
			ART UNIT	PAPER NUMBER
			2823	

DATE MAILED: 04/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/707,184

Applicant(s)

KAZLAS ET AL.

Examiner

Khiem D. Nguyen

Art Unit

2823

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION*****Response to Applicants' Argument and Amendment***

The non-final rejection as set forth in paper No. (091305) mailed on September 16<sup>th</sup>, 2005 is withdrawn in response to applicants' amendments. A new rejection is made as set forth in this Office Action. Claims (1-15 and 24-26) are pending in the application.

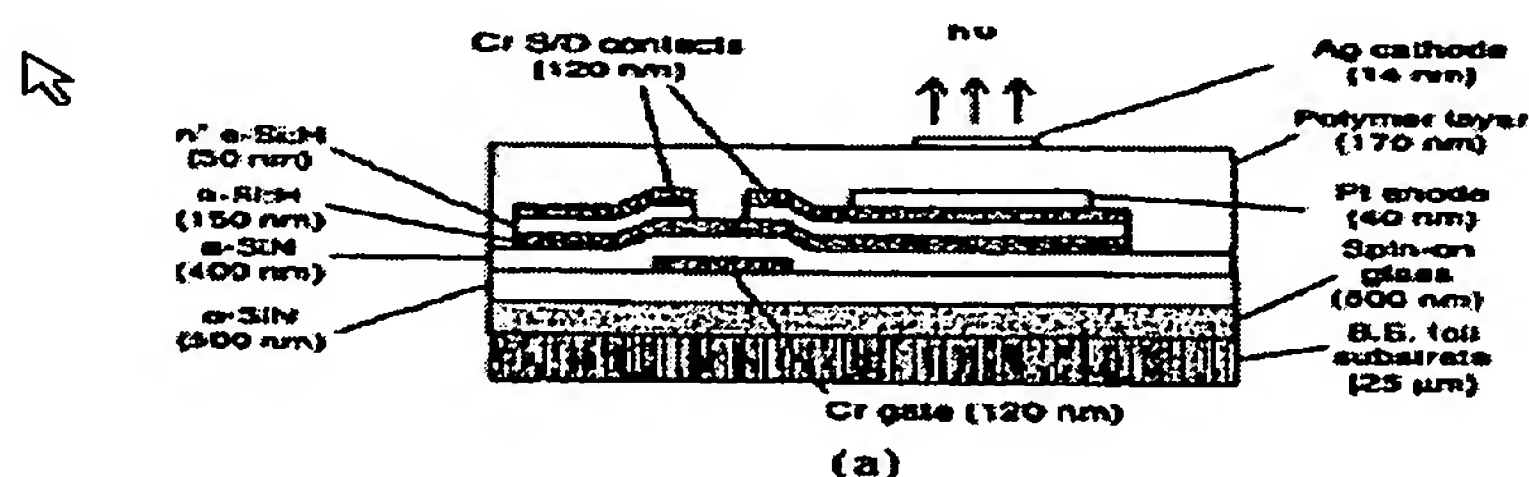
***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-15 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (IEEE "Thin film transistors for foldable displays") in view of Tahon et al. (U.S. Patent 6,355,125).

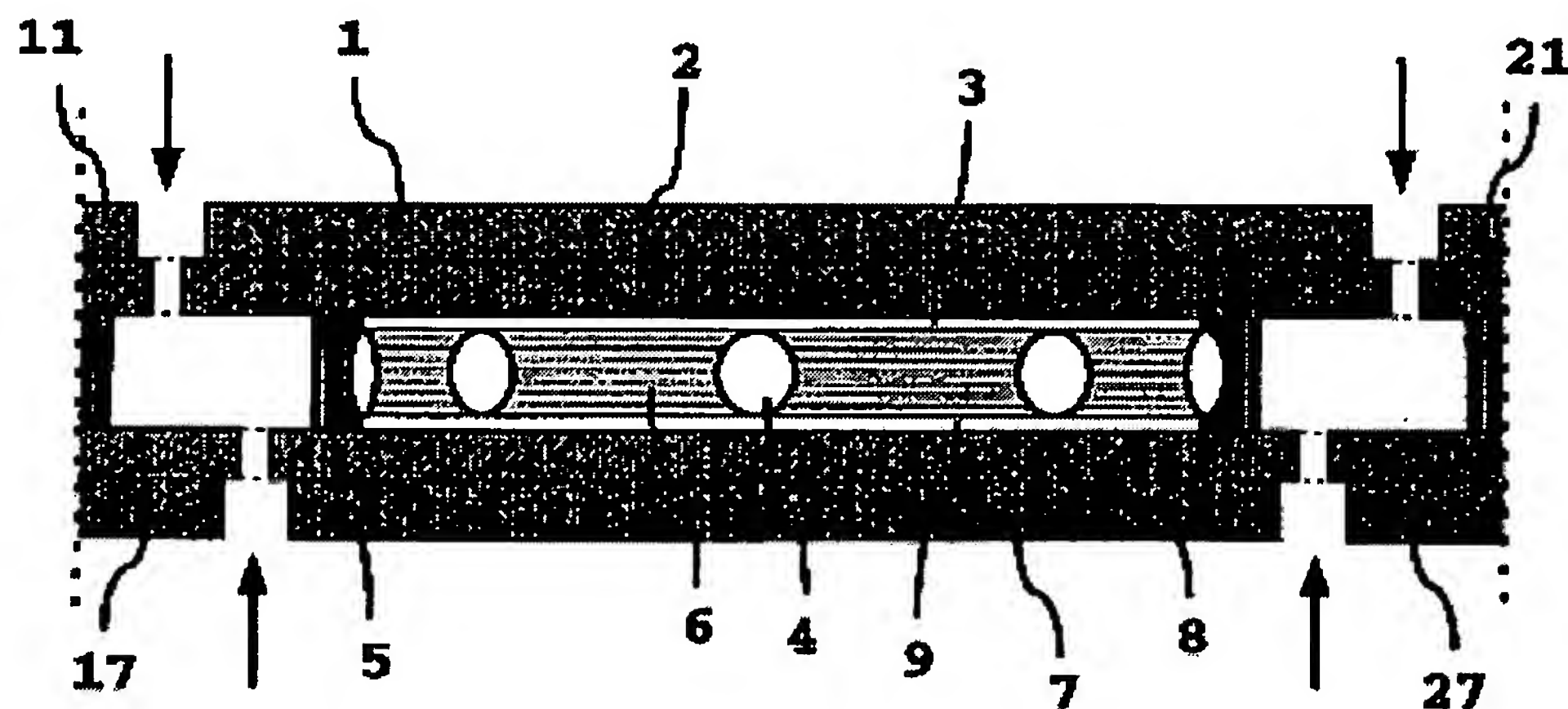
In re claim 1, Ma discloses a backplane for use in an electro-optic display, the backplane comprising a patterned metal foil (S.S. foil substrate) (FIG. 2(a)),



coated on at least one side with an insulating polymeric material (**Spin-on glass**, MDP) and having a plurality of thin film electronic devices provided on the insulating polymeric material (pages 20.6.1-20.6.2).

Ma does not explicitly disclose that the patterned metal foil having a plurality of apertures extending therethrough.

Tahon, however, discloses a backplane for use in an electro-optic display, the backplane comprising a patterned metal foil 2, 8 having a plurality of apertures extending therethrough, and coated at least one side with an insulating polymeric material 1, 7 (col. 6, line 8 to col. 7, line 35 and FIG. 1).



**Fig. 1**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ma and Tahon to enable the backplane comprising a patterned metal foil having a plurality of apertures of Ma to be formed and furthermore improve the viewing angle (col. 4, lines 62-63, Tahon).

In re claim 2, **Ma** discloses that the apertures are arranged on a rectangular grid (FIG. 2(a)).

In re claims 3 and 4, **Ma** does not explicitly disclose that the apertures occupy at least about 30 percent of the area of the patterned metal foil or that the apertures occupy at least about 60 percent of the area of the patterned metal foil.

However, there is no evidence indicating the percentage range that the apertures occupy the area of the patterned metal foil is critical and it has been held that it is not inventive to discover the optimum or workable percentage range of a result-effective variable within given prior art conditions by routine experimentation. See MPEP § 2144.05.

Note that the specification contains no disclosure of either the critical nature of the claimed dimensions of any unexpected results arising there from. Where patentability is aid to be based upon particular chosen dimensions or upon another variable recited in a claim, the Applicant must show that the chosen dimensions are critical. In re Woodruff, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

In re claim 5, **Ma** discloses that the patterned metal foil is coated on both sides with an insulating polymeric material (FIG. 2(a)).

In re claim 6, **Ma** discloses that the patterned metal foil is coated on both sides with the same insulating polymeric material (pages 20.6.2 and FIG. 2(a)).

In re claim 7, **Ma** discloses that the patterned metal foil is coated on its two sides with different insulating polymeric materials (page 20.6.2 and FIG. 2(a)).

Art Unit: 2823

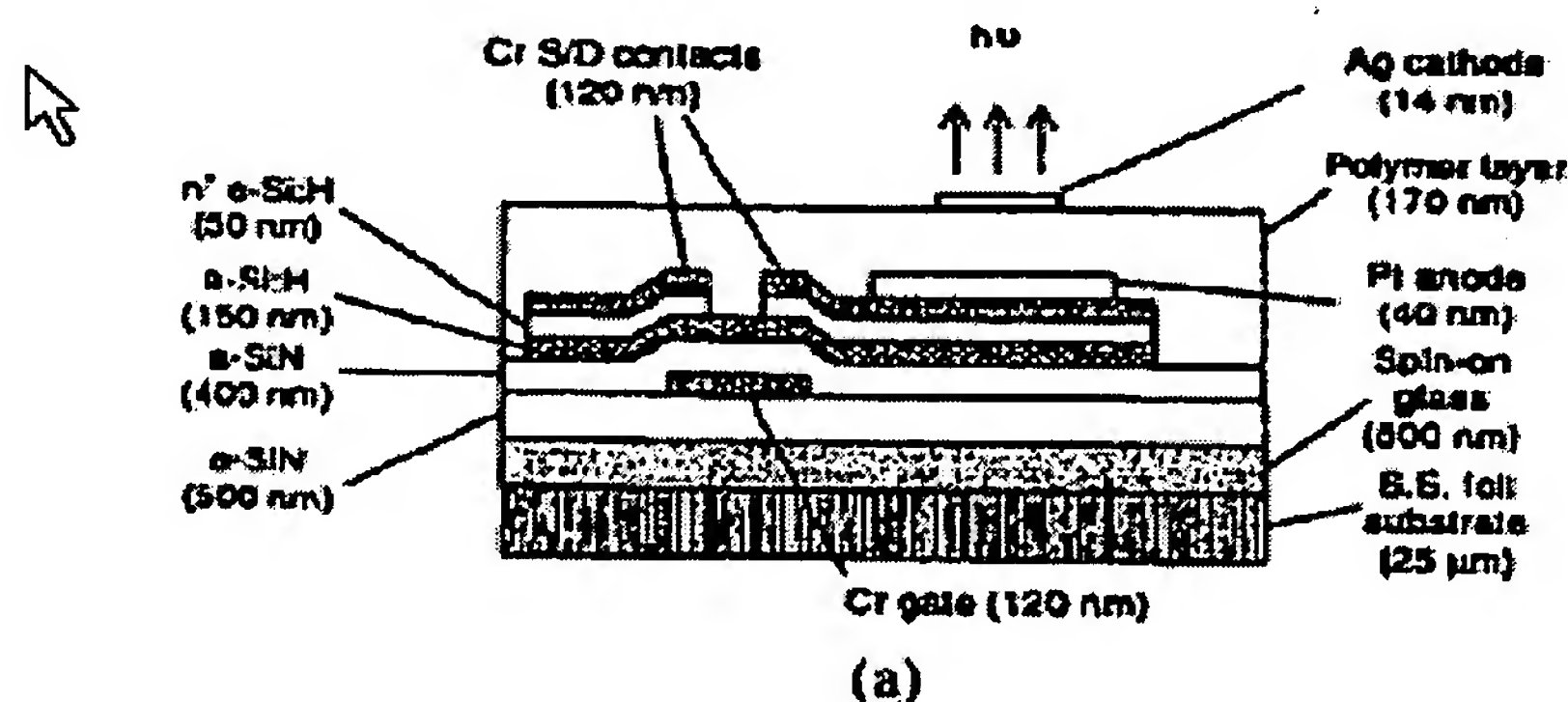
In re claim 8, **Ma** discloses that each of the thin film electronic devices lies entirely within the area of one aperture in the metal foil (FIG. 2(a)).

In re claim 9, **Ma** discloses that each of the thin film electronic devices extends across a plurality of apertures in the metal foil (FIG. 2(a)).

In re claim 10, **Ma** discloses an electro-optic display comprising a backplane according to claim 1 (FIG. 2(a)).

In re claim 11, **Ma** discloses an electro-optic display according to claim 10 comprising an encapsulated electrophoretic electro-optic medium (FIG. 2(a)).

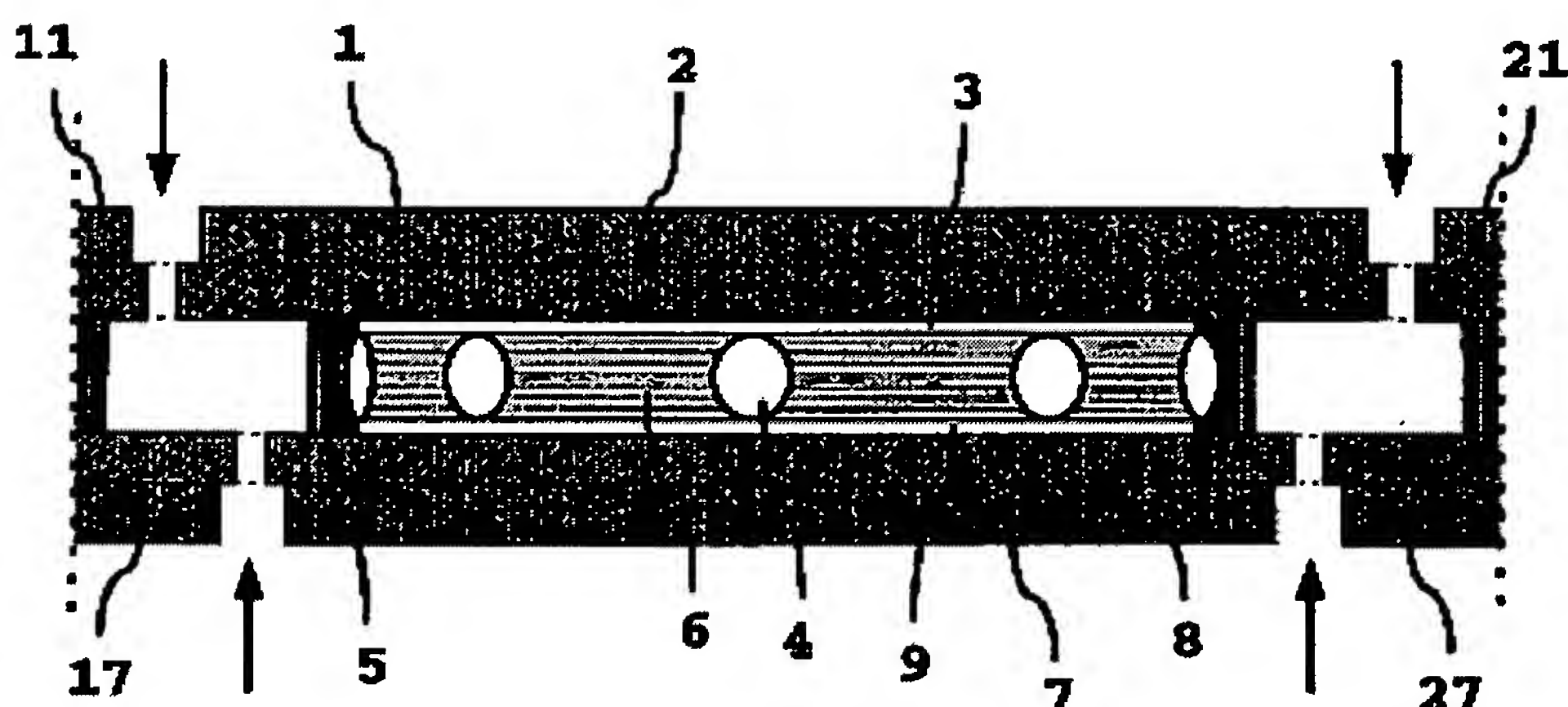
In re claim 12, **Ma** discloses a backplane for use in an electro-optic display, the backplane comprising a metal foil (**S.S. foil substrate**) coated on at least one side with an insulating polymeric material (**Spin-on glass, MDP**) and having a plurality of thin film electronic devices provided on the insulating polymeric material, and electrically connecting at least one of the thin film electronic devices to the metal foil (pages 20.6.2 and FIG. 2(a)).





Ma does not explicitly disclose that the patterned metal foil having a plurality of apertures extending therethrough and the backplane further comprising at least one conductive via extending through the polymeric material.

Tahon, however, discloses a backplane for use in an electro-optic display, the backplane comprising a patterned metal foil 2, 8 having a plurality of apertures extending therethrough, the backplane further comprising at least one conductive via extending through the polymeric material, and coated at least one side with an insulating polymeric material 1, 7 (col. 6, line 8 to col. 7, line 35 and FIG. 1).



**Fig. 1**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ma and Tahon to enable the backplane comprising a patterned metal foil having a plurality of apertures and the backplane further comprising at least one conductive via extending through the polymeric material of Ma to be formed and furthermore improve the viewing angle (col. 4, lines 62-63, Tahon).

Art Unit: 2823

In re claim 13, Ma discloses that the metal foil serves as at least one of an antenna, an inductor loop, a power plane, a capacitor, a capacitor contact, a pixel electrode, and electromagnetic induction shielding (page 20.6.2).

In re claim 14, Ma discloses that an electro-optic display comprising a backplane according to claim 12 (page 20.6.1 and FIG. 1).

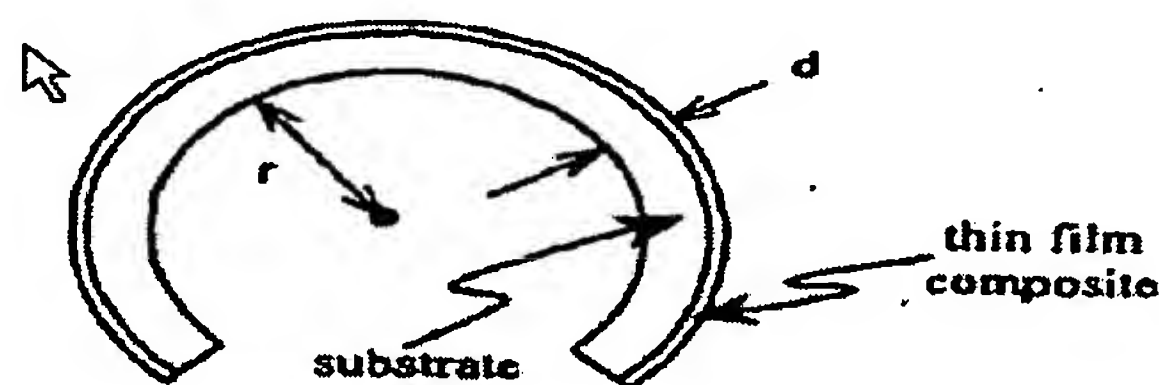
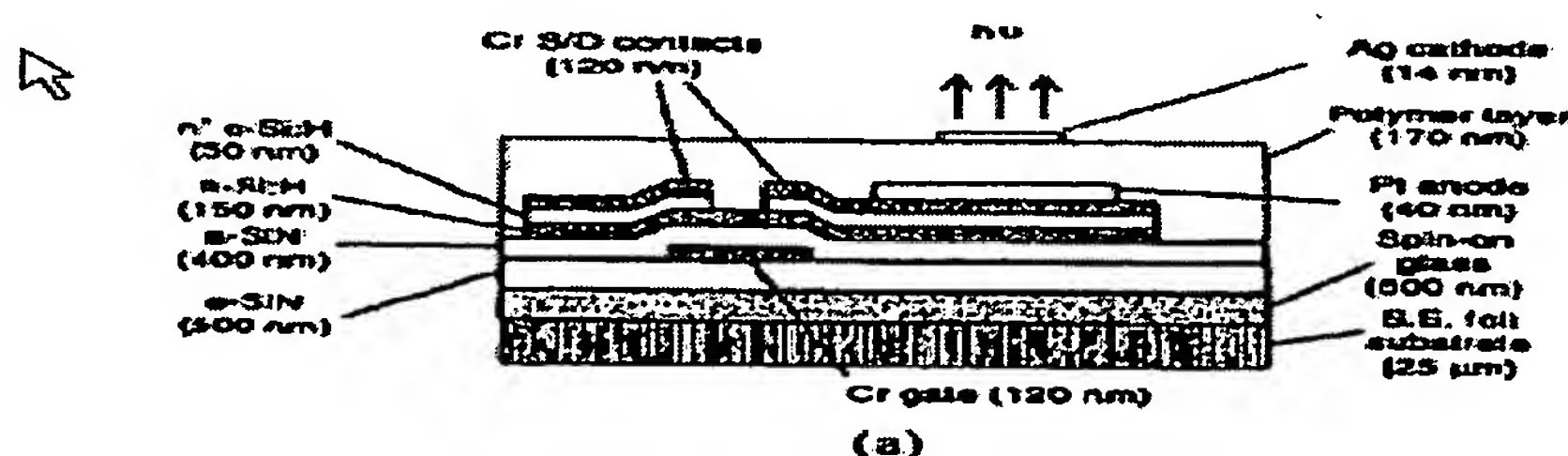


Figure 1. Schematic of a display backplane of thickness  $d$  bent around a radius of curvature  $r$ .

In re claim 15, Ma discloses an electro-optic display according to claim 14 in the form a smart card having an electro-optic display thereon, and wherein the metal foil serves to communication between the card and a card reading apparatus (page 20.6.1).

In re claim 24, Ma discloses an electro-optic display having a metal substrate (S.S. foil substrate), the display having a central portion comprising an electro-optic material and means for writing an image on the electro-optic material, and a peripheral portion extending around at least part of the periphery of the central portion, by means of which apertures the electro-optic display may be stitched to a flexible medium (pages 20.6.1-20.6.2 and FIGS. 1 and 2(a)).

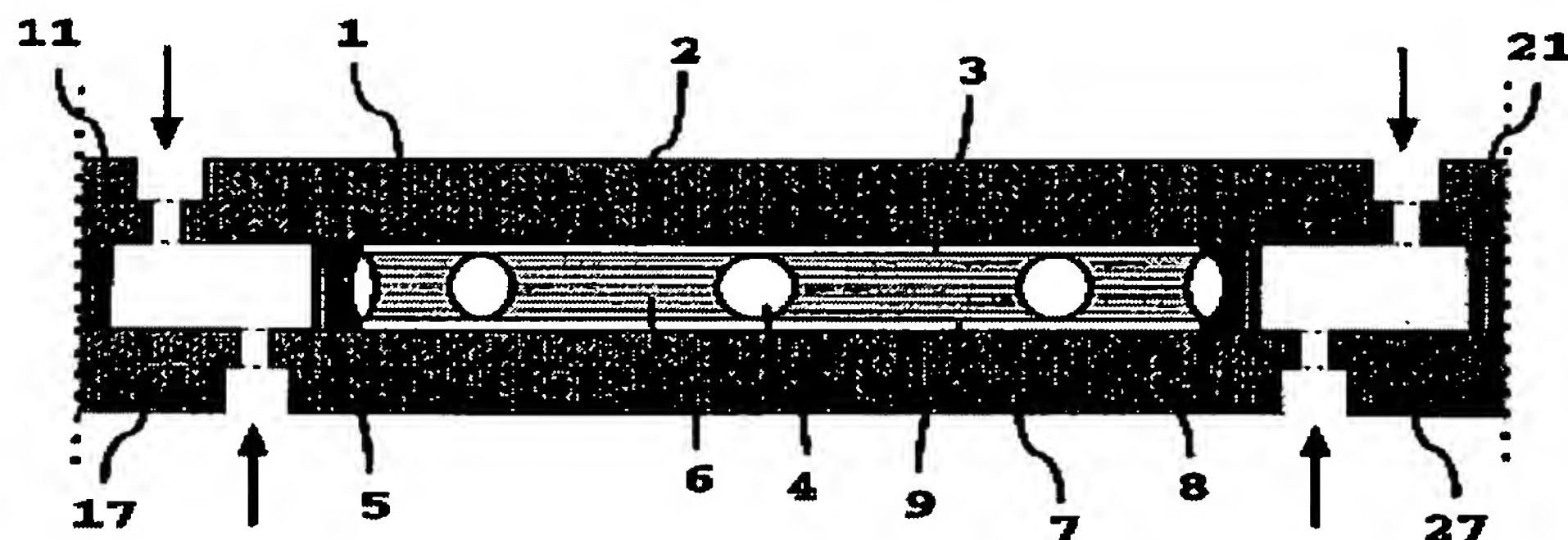




Art Unit: 2823

Ma does not explicitly disclose the peripheral portion having a plurality of apertures extending through the metal substrate.

Tahon, however, discloses a backplane for use in an electro-optic display, the backplane comprising a patterned metal foil 2, 8 having a plurality of apertures extending therethrough, and coated at least one side with an insulating polymeric material 1, 7 (col. 6, line 8 to col. 7, line 35 and FIG. 1).



**Fig. 1**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ma and Tahon to enable the peripheral portion having a plurality of apertures extending through the metal substrate of Ma to be formed and furthermore improve the viewing angle (col. 4, lines 62-63, Tahon).

In re claim 25, Ma discloses an electro-optic display according to claim 24 wherein the peripheral portion of such a display is free from the electro-optic material (page 20.6.2).

Art Unit: 2823

In re claim 26, Ma discloses an electro-optic display according to claim 24 wherein the peripheral portion extends completely around the central portion so that the entire periphery of the electro-optic display can be stitched to the flexible medium (page 20.6.1 and FIGS. 1 and 2(a)).

### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khiem D. Nguyen whose telephone number is (571) 272-1865. The examiner can normally be reached on Monday-Friday (8:30 AM - 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on (571) 272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

K.N.  
April 7, 2006



**W. DAVID COLEMAN**  
**PRIMARY EXAMINER**